

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

**Listing of Claims:**

1. - 8. (Canceled)

9. (Currently Amended) An emission control system for treating exhaust gas comprising NO<sub>x</sub>, hydrocarbons, and carbon monoxide produced by a lean burn engine, wherein the exhaust gas which flows upstream to downstream through the emission control system, which system ~~comprising~~ consisting of:

(a) a lean NO<sub>x</sub> catalyst system ~~comprising~~ consisting of a lean NO<sub>x</sub> catalyst ~~platinum group metal (PGM) platinum catalyst~~ for reducing NO<sub>x</sub> to N<sub>2</sub> present in the lean NO<sub>x</sub> catalyst system at a loading of < 30g/ft<sup>3</sup> and a support selected from the group consisting of alumina, a zeolite, ceria, and zirconia ~~wherein the lean NO<sub>x</sub> catalyst PGM consists of platinum;~~

(b) an oxidation catalyst system ~~comprising~~ consisting of an oxidation catalyst ~~platinum group metal (PGM) for oxidizing hydrocarbons and carbon monoxide, present in the~~ oxidation catalyst system at a loading of > 30 g/ft<sup>3</sup>, and a support selected from the group consisting of alumina, a zeolite, ceria and zirconia; and

(c) means for injecting hydrocarbon fuel into the exhaust upstream of the lean NO<sub>x</sub> catalyst system,

wherein the lean NO<sub>x</sub> catalyst system is disposed upstream of the oxidation catalyst system, ~~and wherein the platinum is present in the lean NO<sub>x</sub> catalyst system at a loading of < 30g/ft<sup>3</sup> and wherein the volume of the lean NO<sub>x</sub> catalyst system is 300% or greater than that of the volume of the oxidation catalyst system.~~

10. (Previously Presented) An emission control system according to claim 9, wherein the lean NO<sub>x</sub> catalyst system has an activity sufficient to provide a ratio of % NO<sub>x</sub> conversion to % hydrocarbon conversion of at least 0.2 as measured at a temperature of 230°C, a space velocity of 25000hr<sup>-1</sup> and a hydrocarbon:NO<sub>x</sub> input ratio of 3:1 counting the hydrocarbon as equivalent propane.

11. (Previously Presented) An emission control system according to claim 9, wherein the oxidation catalyst system has an activity sufficient to provide a % hydrocarbon conversion of greater than 80% and a % carbon monoxide conversion of greater than 70% as measured at a temperature of 230°C, a space velocity of 25000hr<sup>-1</sup> and a hydrocarbon:NOx input ratio of 3:1 counting the hydrocarbon as equivalent propane.

12. (Canceled)

13. (Canceled)

14. (Currently Amended) An emission control system according to claim 9, wherein the oxidation catalyst system-PGM is platinum.

15. (Currently Amended) An emission control system according to claim 9, wherein the oxidation catalyst system-PGM is present in the oxidation catalyst system at a loading is of about 100g/ft<sup>3</sup>.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Currently Amended) A process for the control of emissions from a lean-burn internal combustion engine, which process ~~comprising~~ consisting of:

passing exhaust gases from the engine over a lean NOx catalyst system ~~comprising~~ consisting of

1) a lean NOx platinum group metal (PGM) a platinum catalyst to reduce NOx to N<sub>2</sub> present in the lean NOx catalyst system at a loading of < 30g/ft<sup>3</sup>, and wherein the lean NOx catalyst PGM consists of platinum

2) a support selected from the group consisting of alumina, a zeolite, ceria and zirconia;

passing the product gases exiting from the lean NOx catalyst system over an oxidation catalyst system ~~comprising~~ consisting of

1) an oxidation catalyst platinum group metal (PGM) to oxidize hydrocarbons and carbon monoxide present in the oxidation catalyst system at a loading of  $> 30 \text{ g/ft}^3$ , and

2) a support selected from the group consisting of alumina, a zeolite, ceria and zirconia; and

introducing additional hydrocarbon fuel into the exhaust gas before the exhaust gas contacts the lean NOx catalyst system;

~~wherein the platinum is present in the lean NOx catalyst at a loading of  $\leq 30 \text{ g/ft}^3$  and wherein the volume of the lean NOx catalyst system is 300% or greater than that of the volume of the oxidation catalyst system.~~

22. (Previously Presented) A process according to claim 21, wherein the lean NOx catalyst system has an activity sufficient to provide a ratio of % NOx conversion to % hydrocarbon conversion of at least 0.2 as measured at a temperature of  $230^\circ\text{C}$ , a space velocity of  $25000 \text{ hr}^{-1}$  and a hydrocarbon:NOx input ratio of 3:1 counting the hydrocarbon as equivalent propane.

23. (Previously Presented) A process according to claim 21, wherein the oxidation catalyst system has an activity sufficient to provide a % hydrocarbon conversion of greater than 80% and a % carbon monoxide conversion of greater than 70% as measured at a temperature of  $230^\circ\text{C}$ , a space velocity of  $25000 \text{ hr}^{-1}$  and a hydrocarbon:NOx input ratio of 3:1 counting the hydrocarbon as equivalent propane.

24. (Canceled)

25. (Canceled)

26. (Currently Amended) A process according to claim 21, wherein the oxidation catalyst system ~~PGM is platinum.~~

27. (Currently Amended) A process according to claim 21, wherein the oxidation catalyst ~~system~~ PGM is present in the oxidation catalyst system at a loading is of about 100g/ft<sup>3</sup>.

28. (Canceled)

29. (Currently Amended) A process according to claim 21, wherein the step of passing the exhaust gases from the engine over the lean NOx catalyst system are passed over the ~~lean NOx catalyst~~ platinum catalyst at a space velocity below 40000hr<sup>-1</sup>.

30. (Currently Amended) A process according to claim 21, wherein the step of passing the product gases exiting from the lean NOx catalyst system over the oxidation catalyst system are passed over the oxidation catalyst PGM at a space velocity of 40000-80000hr<sup>-1</sup>.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Currently Amended) A combination of a lean burn engine and an emission control system, wherein the lean burn engine produces an exhaust gas comprising NOx, hydrocarbons, and carbon monoxide and the emission control system treats the exhaust gas which flows upstream to downstream through the emission control system, said emission control system ~~comprising~~ consisting of:

(a) a lean NOx catalyst system ~~comprising~~ consisting of a lean NOx catalyst ~~platinum group metal (PGM) catalyst~~ platinum catalyst for reducing NOx to N<sub>2</sub> present in the lean NOx catalyst system at a loading of < 30g/ft<sup>3</sup>, and a support selected from the group consisting of alumina, a zeolite, ceria, and zirconia ~~wherein the lean NOx catalyst PGM consists of platinum~~;

(b) an oxidation catalyst system ~~comprising~~ consisting of an oxidation catalyst ~~platinum group metal (PGM)~~ platinum catalyst for oxidizing hydrocarbons and carbon monoxide, and a support selected from the group consisting of alumina, a zeolite, ceria, and zirconia; and

(c) means for injecting hydrocarbon fuel into the exhaust upstream of the lean NOx catalyst system,

wherein the lean NOx catalyst is disposed upstream of the oxidation catalyst, ~~and wherein the platinum is present in the lean NOx catalyst at a loading of  $< 30\text{g/ft}^3$  and wherein the volume of the lean NOx catalyst system is 300% or greater than that of the volume of the oxidation catalyst system.~~

35. (Previously Presented) The combination of claim 34, wherein the engine is a diesel engine, a lean burn gasoline engine or a direct injection gasoline engine.

36. (Currently Amended) An emission control system for treating exhaust gas comprising NOx, hydrocarbons, and carbon monoxide produced by a lean burn engine, wherein the exhaust gas which flows upstream to downstream through the emission control system, which system ~~comprises~~ consistsconsisting of:

(a) a lean NOx catalyst system consisting of a platinum catalyst for reducing NOx to  $\text{N}_2$  and having a loading of  $< 30\text{g/ft}^3$  coated on a surface area-enlarging washcoat, ~~for reducing NOx to  $\text{N}_2$ ;~~

(b) an oxidation catalyst system ~~comprising~~ consisting of an oxidation catalyst platinum group metal (PGM) for oxidizing hydrocarbons and carbon monoxide present in the oxidation catalyst system at a loading of  $> 30\text{ g/ft}^3$ , and a support selected from the group consisting of alumina, a zeolite, ceria, and zirconia; and

(c) means for injecting hydrocarbon fuel into the exhaust upstream of the lean NOx catalyst system,

wherein the lean NOx catalyst system is disposed upstream of the oxidation catalyst system ~~and wherein the volume of the lean NOx catalyst system is 300% or greater than that of the volume of the oxidation catalyst system.~~

37. (Currently Amended) A process for the control of emissions from a lean-burn internal combustion engine, which process ~~comprises~~consisting of:

passing exhaust gases from the engine over a lean NOx catalyst system consisting of a platinum catalyst having a loading of  $< 30\text{g/ft}^3$  coated on a surface area-enlarging washcoat, for reducing NOx to  $\text{N}_2$ ;

passing the product gases exiting from the lean NOx catalyst system over an oxidation catalyst system ~~comprising~~ consisting of an oxidation catalyst platinum group metal (PGM) to oxidize hydrocarbons and carbon monoxide; and

introducing additional hydrocarbon fuel into the exhaust gas before the exhaust gas contacts the lean NOx catalyst system;

~~wherein the volume of the lean NOx catalyst system is 300% or greater than that of the volume of the oxidation catalyst system.~~